



UNITED STATES PATENT AND TRADEMARK OFFICE

NW

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,187	10/16/2000	Tatsuya Seshimo	Q61335	8574

7590 01/26/2004
Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue NW
Washington, DC 20037-3213

EXAMINER

HUFFMAN, JULIAN D

ART UNIT PAPER NUMBER

2853

DATE MAILED: 01/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/688,187

Applicant(s)

SESHIMO ET AL.

Examiner

Julian D. Huffman

Art Unit

2853

ML

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,9-13,15-21,24,27,28,31 and 34 is/are rejected.
- 7) ☒ Claim(s) 2,7,8,14,22,23,25,26,29,30,32 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 November 2003 has been entered.

Claim Objections

2. Claim 14 is objected to because of the following informalities:

In claim 14, it is respectfully suggested that the word "that" in the last line be changed to "if".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4, 6, 9-11, 15-21, 24, 27, 28, 31 and 34 are rejected under 35

U.S.C. 102(a) as being anticipated by Hilton et al. (U.S. 6,158,837).

With regards to claim 1, Hilton et al. disclose an ink jet recording apparatus (fig.

1) comprising an ink jet recording head (14) for receiving supply of ink from an ink cartridge (12) provided with storage means storing data for determining compatibility of a recording apparatus (fig. 5, element 25), and control means (21) for determining compatibility of ink based on the data in the storage means and executing print operation, wherein if compatibility to an ink cartridge cannot be confirmed when the ink cartridge is mounted, the recording apparatus generates a caution and always awaits input of an instruction by a user before the recording apparatus executes a subsequent print operation, after said caution is generated (fig. 6, steps 70-78).

With regards to claims 4 and 20 Hilton et al. disclose an inkjet recording apparatus (fig. 1) comprising an ink jet recording head (14) for receiving supply of ink from an ink cartridge (12) provided with storage means (25) storing data, and control means (21) for driving the recording head based on the data in the storage means, the recording apparatus further comprising:

default data storage means storing default data for controlling the recording head (non-normal print mode, column 6, lines 54-column 7, line 8); and

print control means (21), which reads the data from the storage means of the ink cartridge to determine compatibility when the ink cartridge is mounted, which, if compatible, controls the ink jet recording head based on the data in the storage means of the ink cartridge, and which, if incompatible, executes print operation based on the data in the default data storage means (fig. 6);

wherein the default data includes data relating to a print medium feeding speed (column 10, lines 7-10).

With regards to claim 6, Hilton et al. disclose an ink jet recording apparatus (fig. 1) comprising an ink jet recording head (14) for receiving supply of ink from an ink cartridge (12) provided with storage means (25) storing data for determining compatibility to a recording apparatus, and control means (21) for determining compatibility of ink based on the data in the storage means and executing print operation, comprising:

optimum drive condition storage means storing an optimum drive condition for an ink cartridge, compatibility of which can be confirmed (column 8, lines 3-4, element 44);

setup range storage means storing normal setup range data for comparison with ink information in the storage means of an ink cartridge (44);

general-purpose drive condition storage means storing a general-purpose drive condition for making it possible to reliably print even with an ink cartridge, compatibility of which cannot be confirmed (44); and

a determination section which compares ink information read from the storage means of an ink cartridge with the normal setup range data, and executes printing using

the optimum drive condition if the ink information is within the normal setup range, and executes printing using the general-purpose drive condition if the ink information is out of the normal setup range (column 6, line 55-column 7, line 8).

With regards to claims 9-11, 21 and 24 Hilton et al. disclose an ink jet recording apparatus (fig. 1) comprising an ink jet recording head (14) for receiving supply of ink from an ink cartridge (12) provided with storage means (25) storing data for determining compatibility to a recording apparatus, and control means (21) for determining compatibility of ink based on the data in the storage means and executing print operation, wherein:

when the recording head is to be filled with ink after an ink cartridge is mounted, the control means determines compatibility of the ink cartridge based on the data from the storage means (fig. 6, step 76), and outputs data used as a guide for determining a compatible ink cartridge if it is determined that the ink cartridge is incompatible (step 77);

wherein the data used as a guide is at least one of (1) displayed on an operation panel of the ink jet recording apparatus and (2) outputted to a display of a host computer (step 77);

wherein the compatibility is compatibility to the recording apparatus (step 77);
and

wherein the user guide data is displayed when a ink cartridge is newly mounted and before the ink jet recording head is filled with ink (step 77).

With regards to claim 15, Hilton et al. disclose a method of determining compatibility of ink based on data stored in storage means of an ink cartridge for supplying ink to a recording head of an ink jet recording apparatus, the method comprising:

generating a caution if compatibility to an ink cartridge cannot be confirmed when the ink cartridge is mounted (step 77); and

always awaiting input of an instruction by a user before executing a subsequent printing operation, after said caution is generated (step 78).

With regards to claim 16 and 27 Hilton et al. disclose a method of controlling an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data, comprising the steps of:

reading data from the storage means of the ink cartridge to determined compatibility of the ink cartridge when the ink cartridge is mounted to the recording apparatus (step 74);

controlling the ink jet recording head based on the data in the storage means of the ink cartridge if the ink cartridge is compatible (column 8, lines 3-4); and

executing print operation based on data stored in default data storage means if the ink cartridge is incompatible (column 6, line 54-column 7, line 8) ;

wherein the default data includes data relating to a print medium feeding speed (column 10, lines 7-10).

With regards to claim 17, Hilton et al. a method of controlling an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility to a recording apparatus, the method comprising:

comparing ink information read from the storage means with normal setup range data (step 74);

executing print operation using optimum drive condition if the ink information is within the normal setup range (column 8, lines 3-4); and

executing print operation using general-purpose drive condition if the ink information contains information out of the normal setup range (column 6, lines 54-column 7, line 8).

With regards to claim 18 and 28 Hilton et al. disclose a method of controlling an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility to a recording apparatus, the method comprising:

determining compatibility of the ink cartridge based on the data from the storage means when the recording head is to be filled with ink after the ink cartridge is mounted (step 74); and

outputting data used as a guide for determining a compatible ink cartridge if the ink cartridge is incompatible (step 77);

wherein the data used as a guide is displayed on an operation panel of the ink jet recording apparatus or outputted to a display of a host computer (step 77);

wherein the user guide data is displayed when a ink cartridge is newly mounted and before the ink jet recording head is filled with ink (step 77).

With regards to claim 19 and 31, Hilton et al. disclose a method of assisting a user to determine a compatible ink cartridge, the method comprising the steps of:

checking data of a first ink cartridge to determine compatibility of the first ink cartridge (step 74);

outputting data used as a guide for determining a compatible, second ink cartridge if compatibility of the first ink cartridge cannot be determined (step 77);

wherein the data used as a guide is displayed on an operation panel of the ink jet recording apparatus or outputted to a display of a host computer (step 77);

wherein the user guide data is displayed when a ink cartridge is newly mounted and before the ink jet recording head is filled with ink (step 77).

With regards to claim 34, Hilton et al. disclose an ink jet recording apparatus comprising an ink jet recording head for receiving supply of ink from an ink cartridge provided with storage means storing data for determining compatibility of a recording apparatus, and control means for determining compatibility of ink based on the data in the storage means and executing print operation, wherein:

if compatibility of an ink cartridge cannot be confirmed when the ink cartridge is mounted, the recording apparatus generates a caution and always awaits input of an instruction by a user (step 78).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Myung.

Hilton et al. disclose everything claimed, as discussed above, with the exception of moving the ink cartridge to an ink cartridge replacement position if a cartridge replacement instruction is entered.

Myung discloses moving a cartridge to a replacement position when a user pushes a key for cartridge replacement (column 5, lines 35-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hilton et al. in accordance with this teaching of Myung. The reason for performing the modification would have been to facilitate replacement of an ink cartridge by moving it to a location which is accessible to the user.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. in view of Bullock et al.

Hilton et al. disclose everything claimed with the exception of update data storage means in the controller, the update data storage means being updated with data stored in the ink cartridge storage means.

However, Bullock et al. discloses an update data storage means such that a controller may update its control parameters and control print operations in accordance with data stored in a cartridge storage means (column 6, lines 25-27 and 50-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Bullock et al. into the invention of Hilton et al. The reason for performing the modification would have been to control printing parameters in accordance with cartridge type to prevent variations in print quality (column 6, lines 44-50).

8. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. as applied to claims 1, 4, 6, 9, 10, 11, 15-21, 24, 27, 28, 31 and 34 above, and further in view of Hashimoto and Cowger.

Hilton et al. does not disclose a means for determining a recording medium type or ensuring compatibility between a recording apparatus and a recording medium.

Hashimoto discloses determining recording medium type (abstract).

Cowger discloses that it is critical that a recording media be compatible with the type of recording unit used in the printing apparatus (column 1, lines 22-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Hashimoto and Cowger into the invention of Hilton et al. The reason for performing the modification would have been to optimize print settings based on recording media type and ensure high print quality.

Allowable Subject Matter

9. Claims 2, 7, 8, 14, 22, 23, 25, 26, 29, 30, 32 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claim 2, the prior art of record does not disclose generating the caution each time a predetermined amount is printed.

With regards to claim 7, the prior art of record does not disclose setting the pressure higher for the general purpose drive condition.

With regards to claim 8, the prior art of record does not disclose a plurality of general purpose drive conditions.

With regards to claim 14, the prior art of record does not disclose performing the operations when the cartridge is to be replaced.

With regards to claims 22, 25, 29 and 32 the prior art does not disclose the user guide data including contact addresses and phone numbers.

With regards to claim 23, 26, 30 and 33 the prior art does not disclose the guide data displayed on both the operation panel of the ink jet recording apparatus and the display of the host computer. In the prior art it is displayed in one or the other, but not both.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (703) 308-6556 **until February 11th, 2004**, upon which date the number will be changed to (571)272-2147. The examiner can generally be reached Monday through Friday from 9:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, can be reached at (703) 308-4896. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JH

January 13, 2004



**Thinh Nguyen
Primary Examiner
Technology Center 2800**